

Appendix A- Table Mountain NRCA Trail Management Plan

Background

When Table Mountain Natural Resources Conservation Area (NRCA) was established in 1991 it contained approximately 5 miles of pre-existing trails, including a 1.8-mile stretch of the Pacific Crest Trail (PCT), and several undesignated trails. These trails have developed over time through repeated use. Generally, they are not located according to any current trail planning management practices to avoid sensitive features, and they are not constructed to any form of trail specifications or standards. According to a trail assessment conducted in 2000, 12 percent of trails are in poor to failing condition. Several existing trails cross highly sensitive areas including rare plant sites, rare plant communities, and archeological sites.

Due the steep topography and geology, trails at Table Mountain NRCA are rugged and challenging, and are primarily used by seasoned long distance hikers.

One of the most significant management concerns from the presence of trails in natural areas is the spread of weeds. Non-native plants threaten natural areas by competing with and displacing native plants, often fundamentally changing plant communities and harming rare plant populations (DeLoach 1991, Simberloff, D. 1996). Once infested, restoration of these rare resources to their original condition is difficult if not impossible. These changes typically degrade the quality of food, cover and breeding sites used by native wildlife (MacDonald, C. 1985, Simberloff, D. 1996). Recreational trails can act as conduits for the spread of weeds into natural areas (Benniger-Truax et al. 1992, Tyser and Worley 1992), and the number of exotic plants in natural areas is known to increase with higher numbers of visitors (Lonsdale 1999). Because the PCT crosses several concentrations of weeds, such as power line corridors, highway rights-of-way, and old logging roads, the potential for the spread of weeds to Table Mountain NRCA is high. The BPA power line corridor is in places dominated by weeds such as Scotch broom (*Cytisus scoparius*), Himalayan blackberry (*Rubus discolor*) and common hawkweed (*Hieracium lachenalii*) that could infest the relatively weed-free balds near the summit of Table Mountain.

Recreational use also has the potential to disturb or harm sensitive wildlife species such as peregrine falcons, spotted owls, or Larch Mountain Salamanders. Birds in particular, can be sensitive to human intrusion along trails because they are sensitive to movement and habitat alteration (Gutzwiller et al. 1994, Robinson et al. 1995). Research suggests that recreation along trails can impede the ability of birds to forage (Burger & Gochfeld 1998), attract mates (Gutzwiller 1994), and reproduce successfully (Major, R.E. 1990).

Trampling can harm native plants both directly, in the form of reduced plant survival and increased mortality (Thomas and Willson 1992), and indirectly in the form of soil erosion, soil compaction and the spread of weeds (Bowles and Maun 1982, Cole 1987, Bowles et al. 1990).

DRAFT TABLE MOUNTAIN NRCA MANAGEMENT PLAN March 14, 2006

Human trampling is thought to have caused the local extinctions of rare plants (Nothington and Burgess 1979, Gibson 1988).

Cultural sites may be impacted when hikers build rock cairns to mark trails or if they are looted for arrowhead points or tools. In accordance with the NRCA act trails should be directed away from cultural sites in order to protect their integrity and confidentiality.

Because of the above-mentioned impacts associated with trails, trail planning at Table Mountain NRCA should proceed with caution.

The primary objective of this trail plan is to eliminate or mitigate any negative effects of trails and human trampling on sensitive features at Table Mountain, while supporting passive public recreation.

Existing Trails and Conditions

Location of existing trails:

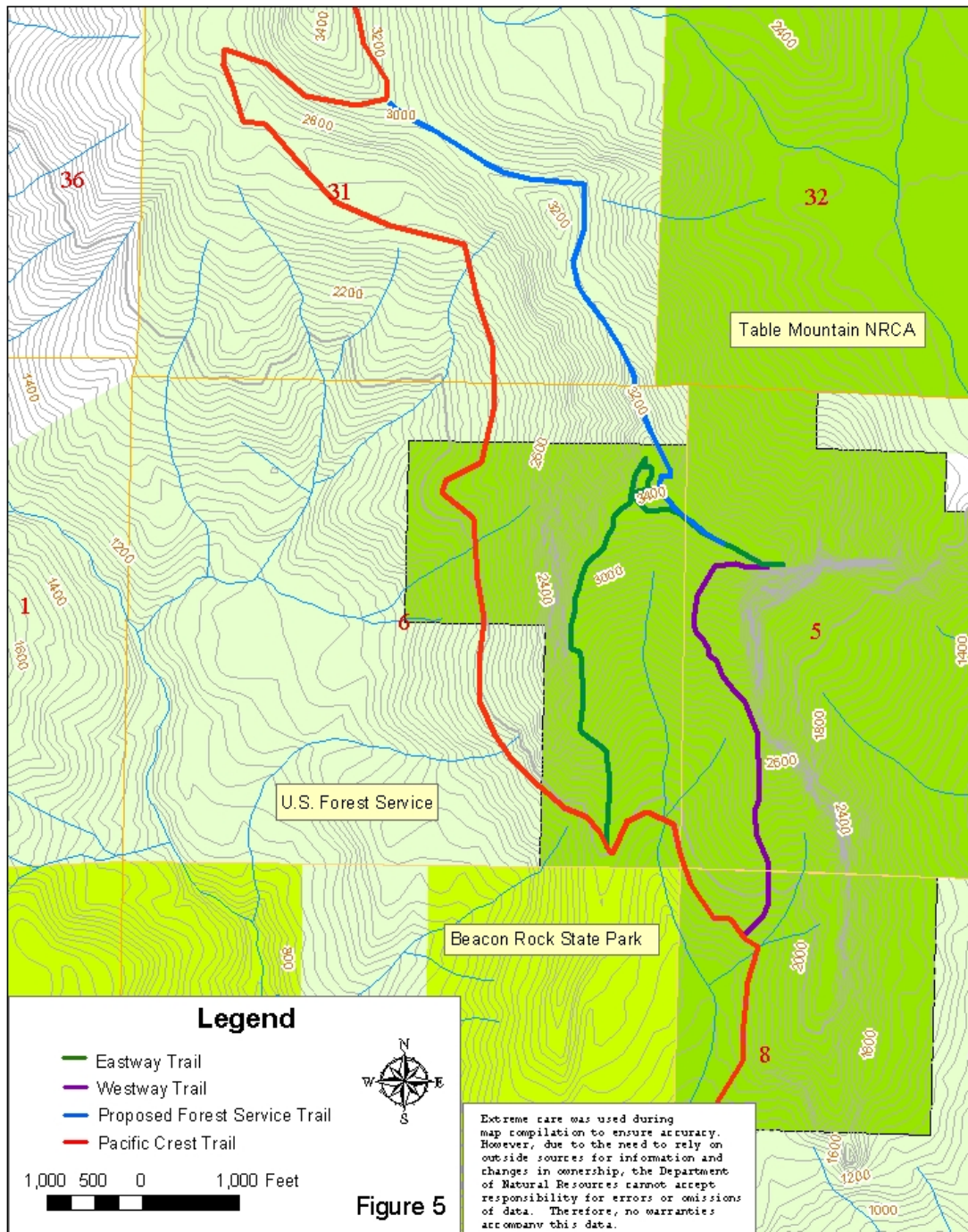
Two parallel, user-built trails lead northerly from the PCT, leading to the summit of Table Mountain. One trail follows a north-south ridge on the east (Eastway Trail) and the other a north-south ridge on the west (Westway Trail). The summit of Table Mountain has trails and spurs along westerly, easterly, and northerly running ridges. At the north end of the summit area, a poorly developed trail leads in a northerly direction away from the summit towards a Bonneville Power Administration (BPA) power line corridor. In general, trail routes are currently inadequately marked with signs, often leaving hikers unsure as to the correct route. Figure 5 illustrates locations of existing trails.

Condition of existing trails:

Eastway: The Eastway Trail is steep, highly eroded and failing in places. On portions of the Eastway trail that cross the balds, the grades are over 60 percent, and the trail has failed. Several areas of the trail are deeply eroded and dangerous.

Westway: While there are sections of the Westway Trail that are in need of repair, this trail is generally in good shape because it was mostly built along a rocky ridge. Sections of the trail, however, that go through or near sensitive features should be closed and rerouted.

Table Mountain NRCA Existing Trails



DRAFT TABLE MOUNTAIN NRCA MANAGEMENT PLAN March 14, 2006

US Forest Service proposed trail:

The US Forest Service has proposed building a spur trail from the Pacific Crest Trail to Table Mountain summit. The trail would lead from a section of the Pacific Crest Trail northwest of Table Mountain in a southerly direction through the BPA power line corridor and over an old rail bed using an existing poorly designed trail, to the Table Mountain Summit area. This trail currently traverses sensitive balds and a population of the rare Howell's daisy and thus poses a direct threat to these resources in the form of introduction of weeds, trampling, and soil erosion.

Trail Planning

In August 2000, a trail mapping inventory was completed to determine the location, condition, and impact of existing trails and roads within the NRCA. The trails inventory project provided valuable information about patterns of existing hiking, including the location and current condition of existing trails. This information also helped identify which trails are well situated, and which need relocation, restoration or rehabilitation to reduce environmental impact to sensitive features.

The site has not yet undergone a formal user survey to more accurately quantify the volume, type and trends of public use. Currently, the site appears to be utilized for day-use hiking. There are no permanent structures or built facilities. Informal discussions with long-time users of the site indicate that use is increasing, based on their observations.

At an August 23, 2000, public meeting, several user groups and interest groups expressed concern for public use at Table Mountain. Public comments indicated a strong interest in continued public access to the site, and also recognition that use should not have a negative impact on the site's resources. The challenge for managing future use will be to manage the pressures of increasing interest in low-impact public use while protecting the fragile resources.

Beginning in 2002 several members of the Mazama hiking group alerted DNR staff to severe erosion problems on the Eastway Trail and asked to have it closed until a better solution could be found. In response to this concern, the DNR, in cooperation with hiking clubs, closed the Eastway Trail by posting "Trail Closed" signs and by having user groups inform hikers at club meetings and via e-mail. Based on the appearance of new growth of plants in the trail and the lack of new disturbance, the closure appears to be effective.

In 2002 and 2004 members from key Oregon and Washington hiking clubs met to discuss trail issues and how to best accommodate trails at Table Mountain without harming its sensitive features. In the spring and summer of 2004, DNR staff organized several field trips to the site with members of hiking clubs, recreation specialists from the DNR and the USFS, DNR ecologists, and DNR and Yakama tribal archeologists. The groups assessed trail problems and investigated new routes around sensitive areas.

In November of 2005 a private trail consultant was hired to assess trail conditions and to layout a

viable reroute around sensitive features.

The following plan is based on observations and suggestions gathered during this planning process.

General Trail Management Recommendations

General Criteria for Table Mountain trails:

- Trails should not go directly up slope, unless built on hard non-erosive substrate such as rock or talus. Trail grades should not exceed 15 percent on most soft surfaces.
- In accordance with the NRCA Act, trails should avoid sensitive areas such as balds, cultural sites, and habitat for rare and threatened species.
- Trails should avoid dangerous areas.
- New trails should be built to maintain the primitive back-country feel of the site.
- Trails should be constructed with as little damage to the surrounding environment as possible.
- All trails within the Table Mountain NRCA will allow hikers only, with the exception of the PCT that also allows equestrian access.

Signage

Signs will be used sparingly and only when necessary so as to not detract from the scenic beauty of the site. Trail signs should be small and should fit into the wilderness feel to the site.

Informational signs will be placed at the NRCA boundary that clearly states the NRCA rules.

Small trail signs and reassurance markers will be used to mark the correct trail route.

Trail Layout and Construction

Proposed trail routes will be flagged. Proposed routes will then be surveyed by state and tribal archeologists prior to construction. If cultural sites are found during these surveys, the trail route will be amended to protect the sites.

Trails at Table Mountain will be designed to be a narrow wilderness type trail and will be approximately four feet in width, with a two-foot wide tread surface. New trails will be designed to shed water with a minimal use of water structures such as grade dips and water bars. Trail tread will be out sloped to encourage proper drainage.

Trail Monitoring and Maintenance

Trails will require annual monitoring and maintenance to repair erosion and water related problems and to clear encroaching brush. The DNR will rely on user and volunteer groups to assist with this work during planned DNR workdays.

DRAFT TABLE MOUNTAIN NRCA MANAGEMENT PLAN March 14, 2006

Trail Closure and Rehabilitation

Trails will be abandoned at strategic locations along the trail such as at sharp bends. Closed trail sections will be blocked with a thick layer of brush and posted with “trail closed” signs. Check dams will be used in highly eroded areas to divert or slow the flow of water down abandoned trails. Where necessary, hydrologic connectivity will be restored. Abandoned trails will either be allowed to naturally re-vegetate or will be restored using native site-collected seed.

Access

Trails on the NRCA are accessible via the PCT, both from the north and south.

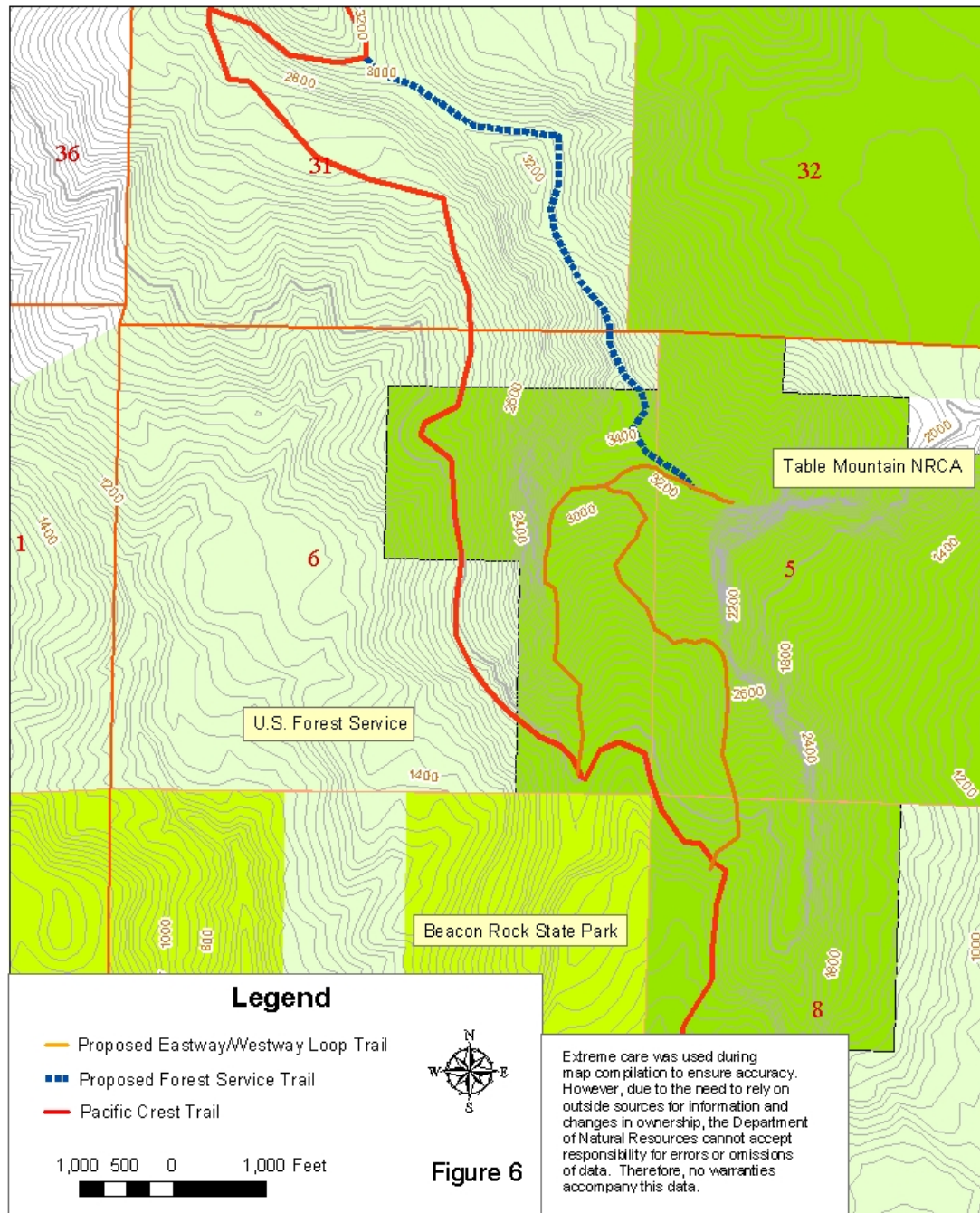
Specific Trail Management Recommendations

Westway Trail - Much of this trail will remain in place, in the short term, with some trail work to fix problem areas. A short section of this trail near the summit will be abandoned to protect nearby sensitive elements. Figure 6 illustrates the approximate locations of the proposed rerouted trails.

Eastway Trail - The southern half of this trail will remain in place with some trail work needed to prevent or repair erosion problems. The northern half of this trail will be abandoned and the trail routed around sensitive meadows. Starting roughly halfway up the Eastway trail near a saddle in the ridge, the trail will be rerouted to the west, largely along contour lines, and will bend slightly uphill until it reaches a long talus slope. From here, the trail will continue straight up the talus slope. From the end of the talus slope the trail will head to the northwest, join with the Westway Trail, and head to the northeast to reach the overlook.

Proposed Forest Service Spur Trail- Because of the previously mentioned potential threats this trail poses to the NRCA, plans for this trail should be put on hold until more information can be gathered. For example, the spread of weeds and public use patterns should be studied for at least two years to determine what effect this trail might have on the sensitive balds and the Howell’s Daisy population. At a minimum, if this trail is to be contracted, sections of the trail will need to be routed to the east and away from balds and the daisy population.

Table Mountain NRCA Proposed Trails



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DRAFT TABLE MOUNTAIN NRCA MANAGEMENT PLAN March 14, 2006

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